COMSAC SYMPOSIUM

Introductory Remarks

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Nov. 19-21, 2002 in Williamsburg, VA

General Findings

Aerodynamic Flight Prediction Workshop

Nov. 19-21, 2002 in Williamsburg, VA

Summary Of The NASA/DoD Workshop On Aerodynamic Flight Predictions

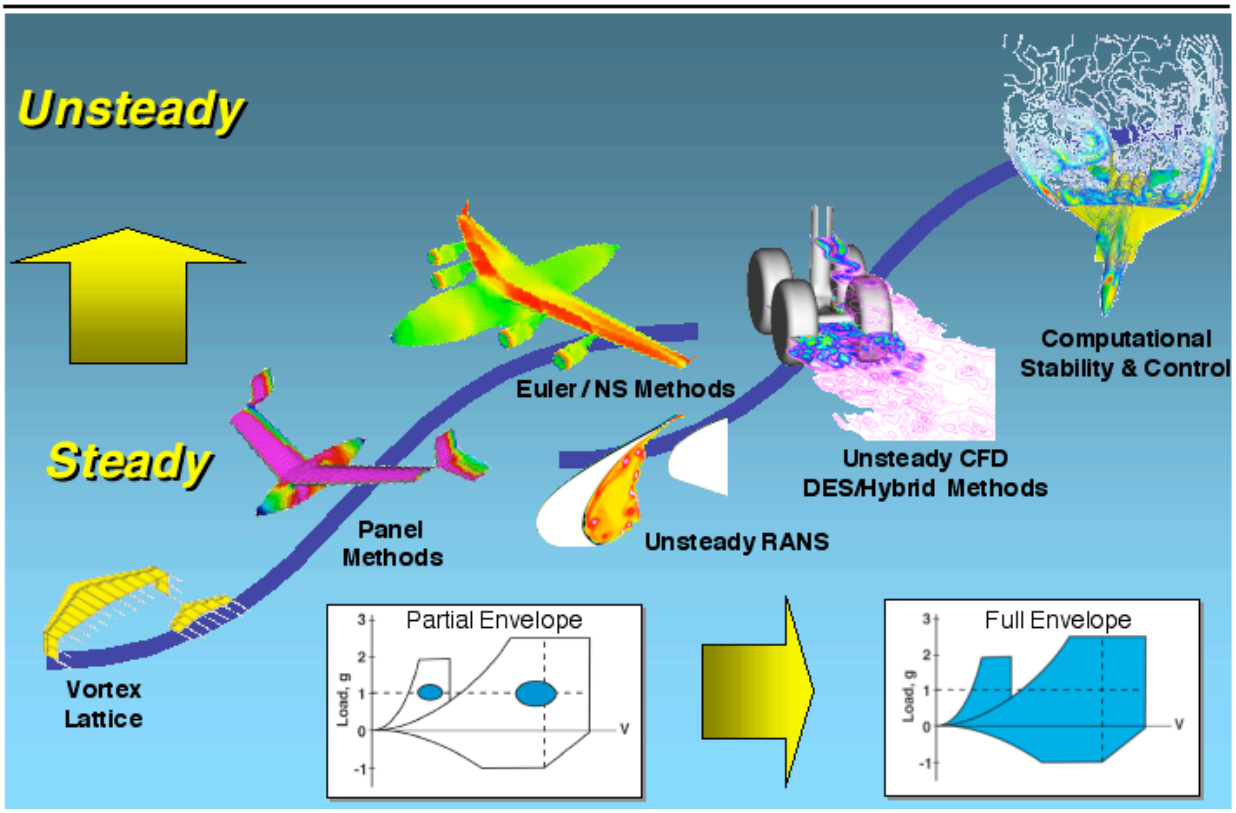
Williamsburg, VA
November 19-21, 2002

1. **Prediction of the onset of separated flows** across the speed range (with the attendant issues of transition prediction, turbulence modeling, unsteady flows, etc.) and the character and impact of separated flow on aircraft capabilities **is the single most critical fundamental issue to be addressed and should receive a very high priority in aerodynamic R&D programs**.

2. **The issue of Reynolds number impacts on aerodynamic predictions continues to pose significant barriers to advances in the state of the art.** The issues leading to this situation (cost, accuracies, operational difficulties, etc.) should be addressed with high priority.

3. **The loss of corporate knowledge and documentation of lessons learned in aerodynamic predictions is a major area of concern.** As a result of corporate mergers, large turnovers in staffs within government and industry, and fewer aircraft programs, the nation is rapidly losing its cornerstone experience base for the future.

Future Aerodynamic Prediction Requirements



Concluding Remarks

- Future vehicle designs will see a paradigm shift from
  - Steady to the unsteady world (e.g. flow control, adaptive morphing),
  - Passive to active,
  - Rigid designs to exploitation of flexibility and adaptability
  - Few discrete to numerous distributed (e.g. sensors, control surfaces)
  - To obtain a vehicle that is always at optimum performance.

- Therefore, future designs will be inherently multidisciplinary, and the greatest technical challenges and opportunities occur at the intersection of disciplines

- COMSAC appears to be a step towards enabling the future vision